Worksheet 4 Stacks

Task 1 Crushing cars

1. (a) Complete the following to show the operations implemented on a collection of burnt-out cars. The stack can hold a maximum of 6 items.

Cars: Mondeo, Golf, Fiesta, Punto, Civic, Porsche

Representations of the stack drawn both horizontally and vertically are shown. Show the state of the stack after each push and pop operation in both representations, and in the first table, show any results returned.

Stack		Result returned
carStack = Stack()	[]	
carStack.push(Mondeo)		
carStack.push(Golf)		
carStack.isEmpty()		
carStack.push(Fiesta)		
carStack.push(Punto)		
carStack.pop()		
carStack.push(Civic)		
carStack.push(Porsche)		
carStack.isFull()		
carStack.pop()		
carStack.pop()		

2. Complete the pseudocode below for a program which uses a stack to test an input string to determine whether it is a palindrome (the same backwards and forwards, like “peep”)

   Assume that a class **Stack** implements the operations in the table in question 1.

```
myString = input (“Please enter a word or phrase to be tested:
”)
list1 = list(myString)    //convert myString to a list of
characters
numChars = len(list1)
s = Stack()
```